Rutan & Tucker LLP attorneys at law

COMPLAINT FOR PATENT

2118/024004-0018
6227046.1 a10/08/13

-1
DEMAND FOR JURY TRIAL

2. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1400(b) and 28 U.S.C. § 1391(c). On information and belief, each of the Defendants resides in this judicial district because, among other things, each has sold and/or offered to sell in this judicial district products that infringe the patent-in-suit.

THE PARTIES

- 3. Plaintiff Altair is a California corporation with its principal place of business at 1834 Palma Drive, Suite F, Ventura, California 93003.
- 4. On information and belief, defendant Rodan is a California limited liability company with its principal place of business located at 111 Maiden Ln., Suite 400, San Francisco, California.
- 5. On information and belief, defendant Amazon is a Delaware corporation with its principal place of business located at 410 Terry Ave., N, Seattle, Washington.
- 6. The true names and capacities, whether individual, corporate, associate or otherwise, of defendants DOES 1 through 10, inclusive, are unknown to Altair, which therefore sues said defendants by such fictitious names. Altair will seek leave of this Court to amend this Complaint to include their proper names and capacities when they have been ascertained. Altair is informed and believes, and based thereon alleges, that each of the fictitiously named defendants participated in and are in some manner responsible for the acts described in this Complaint and the damage resulting therefrom.
- 7. Altair alleges on information and belief that each of the defendants named herein as Does 1 through 10, inclusive, performed, participated in, or abetted in some manner, the acts alleged herein, proximately caused the damages alleged hereinbelow, and are liable to Altair for the damages and relief sought herein.
- 8. Altair alleges on information and belief that, in performing the acts and omissions alleged herein, and at all times relevant hereto, each of the Defendants was the agent and employee of each of the other defendants and was at all times

acting within the course and scope of such agency and employment with the knowledge and approval of each of the other Defendants.

GENERAL ALLEGATIONS

9. On June 5, 2001, United States Patent No. 6,241,739, entitled

- 9. On June 5, 2001, United States Patent No. 6,241,739, entitled "Microdermabrasion Device And Method Of Treating The Skin Surface" ("the '739 patent"), was duly and legally issued by the United States Patent and Trademark Office (the "USPTO").
- 10. By assignment, Altair is the owner of all rights, title and interest in and to the '739 patent, including all rights to recover for any and all past infringement thereof. A true and correct copy of the '739 patent is attached hereto as **Exhibit**"A." Altair has given notice to the public of its patent by marking its own products with the '739 patent in conformity with 35 U.S.C. § 287(a).

CLAIM FOR RELIEF

(Infringement of the '739 Patent)

- 11. Altair realleges each and every allegation set forth in paragraphs 1 through 10 above, and incorporates them herein.
- 12. Defendants make, use, sell, offer to sell, and/or import into the United States a microdermabrasion device known as the "Macro Exfoliator" which contains each and every element of at least one claim of the '739 patent, including in this Judicial District. Users of the Macro Exfoliator also infringe the '739 patent. As such Defendants have infringed and are infringing the '739 patent and will continue to do so, unless enjoined by this Court. Defendants directly infringe the '739 patent, and are also liable for contributory and inducing infringement.
- 13. Defendants' infringement of the '739 patent has been and will continue to be willful, wanton and deliberate with full knowledge and awareness of Altair's patent rights, unless enjoined by this Court.
- 14. Altair has been damaged in an amount to be determined at trial, but which is no less than a reasonable royalty, and irreparably injured by Defendants'

5

6

7

8

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

infringing activities. Altair will continue to be so damaged and irreparably injured 1 unless such infringing activities are enjoined by this Court. 2 3 PRAYER WHEREFORE, Altair prays for the following relief: 4 Preliminary and permanent injunctions pursuant to 35 U.S.C. 5 a. § 283 enjoining and restraining Defendants, their officers, directors, agents, 6 7 employees, successors and assigns, and all those acting in privity or concert with Defendants or any of them, from further infringement of the '739 patent; 8 A judgment by the Court that Defendants have infringed and are 9 infringing the '739 patent; 10 11 An award of damages for infringement of the '739 patent, together with prejudgment interest and costs, said damages to be trebled by reason 12 of the intentional and willful nature of Defendants' infringement, as provided by 13 35 U.S.C. § 284; 14 15 An award of Altair's reasonable attorneys' fees pursuant to 35 16 U.S.C. § 285 in that this is an exceptional case; Altair's costs of suit herein; and 17 e. For such other and further relief as this Court deems just and f. 18 19 proper. Dated: October 8, 2013 RUTAN & TUCKER. LLP 20 RONALD P. OINES THOMAS C. RICHARDSON 21 22 23 Attorneys for Plaintiff ALTAIR INSTRUMENTS, INC. 24 25 26 27 28

2118/024004-0018

6227046.1 a10/08/13

DEMAND FOR JURY TRIAL Altair hereby demands a trial by jury. Dated: October 8, 2013 RUTAN & TUCKER, LLP RONALD P. OINES THOMAS C. RICHARDSON By: Ronald P. Oines Attorneys for Plaintiff ALTAIR INSTRUMENTS, INC.



(12) United States Patent Waldron

(10) Patent No.:

US 6,241,739 B1

(45) Date of Patent:

Jun. 5, 2001

(54)	MICRODERMABRASION DEVICE AND
. ,	METHOD OF TREATING THE SKIN
	SURFACE

(75) Inventor: Stephen H. Waldren, Camarillo, CA

(US)

(73) Assignee: Altair Instruments, Inc., Camarillo,

CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

(21) Appl. No.: 09/440,020

(22) Filed: Nov. 12, 1999

(51) Int. Cl.⁷ A61B 17/50

(58) Field of Search 606/131; 600/562, 600/569

(56) References Cited

U.S. PATENT DOCUMENTS

2,701,559 *	2/1955	Cooper 600/569
2,712,823	7/1955	Kurtin .
2,867,214	1/1959	Wilson.
2,881,763	4/1959	Robbins.
2,921,585	1/1960	Schumann.
3,964,212	6/1976	Karden 51/170 PT
4,378,804	4/1983	Cortese, Jr
4,957,747	9/1990	Stiefel 424/691

C 010 000		C 15 001	** . *	
5,012,797		2/1991	Liang et al	
5,037,431		8/1991	Summers et al	606/131
5,037,432		8/1991	Molinari	606/131
5,100,412		3/1992	Rosso	606/131
5,207,234		5/1993	Rosso	128/898
5,800,446		9/1998	Banuchi	606/131
5,810,842		9/1998	Di Fiore et al	606/131
5,971,999		10/1999	Naldoni	606/131
6,042,552	*	3/2000	Cornier	600/562

OTHER PUBLICATIONS

News Release, American Society for Dermatologic Surgery, An Update on Micro-Dermabrasion, May 19, 1999 pp. 1-2. Nidecker, Anna, "Microdermabrader Offers Alternative to Laser, Peels", [Skin & Allergy News 29(3):48, 1998 International Medical News Group], pp. 1-2.

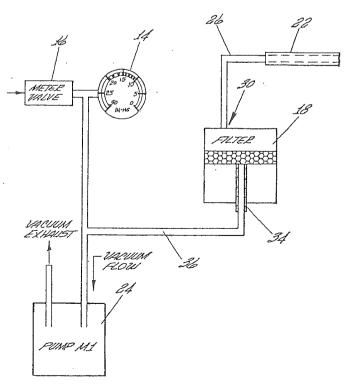
* cited by examiner

Primary Examiner—Jeffrey A. Smith (74) Attorney, Agent, or Firm—Michael J. Ram; Koppel & Jacobs

(57) ABSTRACT

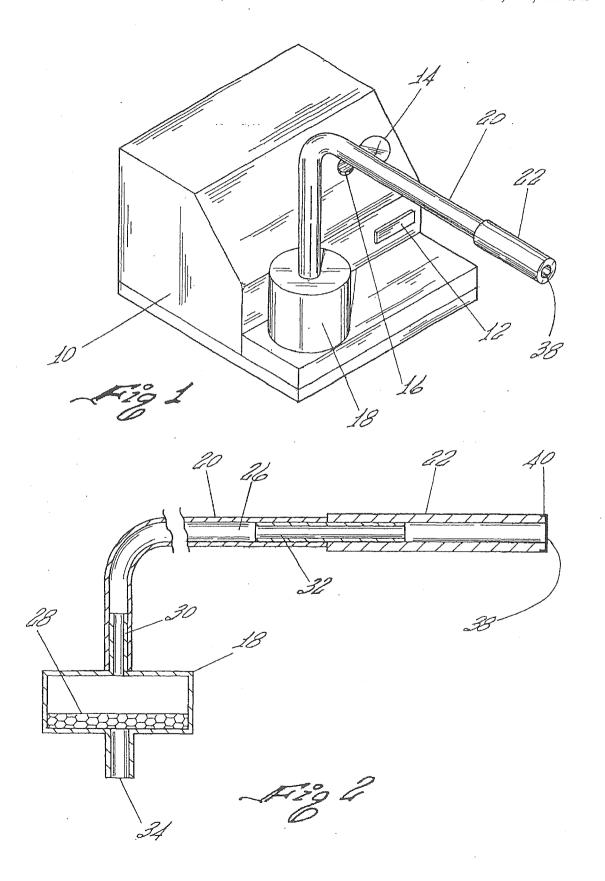
This invention provides a treatment tool and tissue collection system, for remove of outer layers of skin to provide a revitalized, fresh skin surface, and a method of using same, comprising an abrasive tipped tool mounted on the end of a tube, said tube being connected to a source of vacuum. The vacuum aids in maintaining intimate contact between the abrasive tip and the skin during the treatment process and transports the removed tissue to a collection container.

15 Claims, 4 Drawing Sheets



U.S. Patent

Jun. 5, 2001 Sheet 1 of 4 US 6,241,739 B1

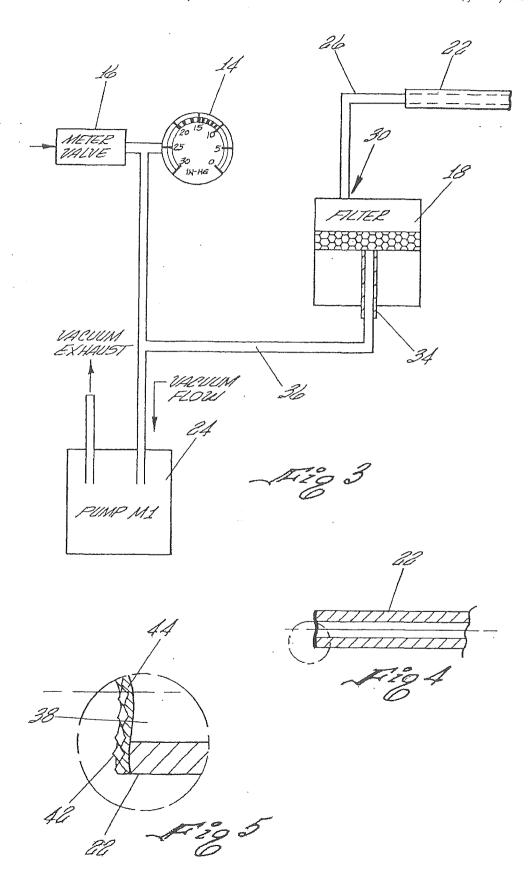


U.S. Patent

Jun. 5, 2001

Sheet 2 of 4

US 6,241,739 B1



U.S. Patent

Jun. 5, 2001

Sheet 3 of 4

US 6,241,739 B1

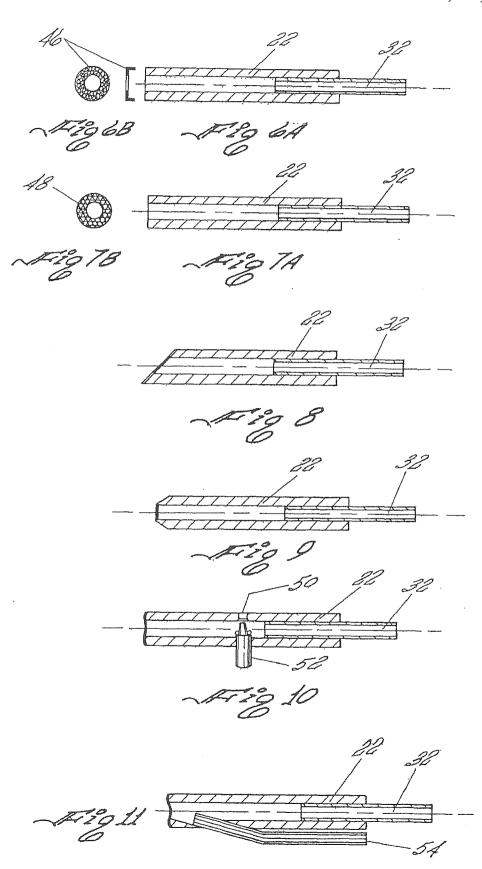
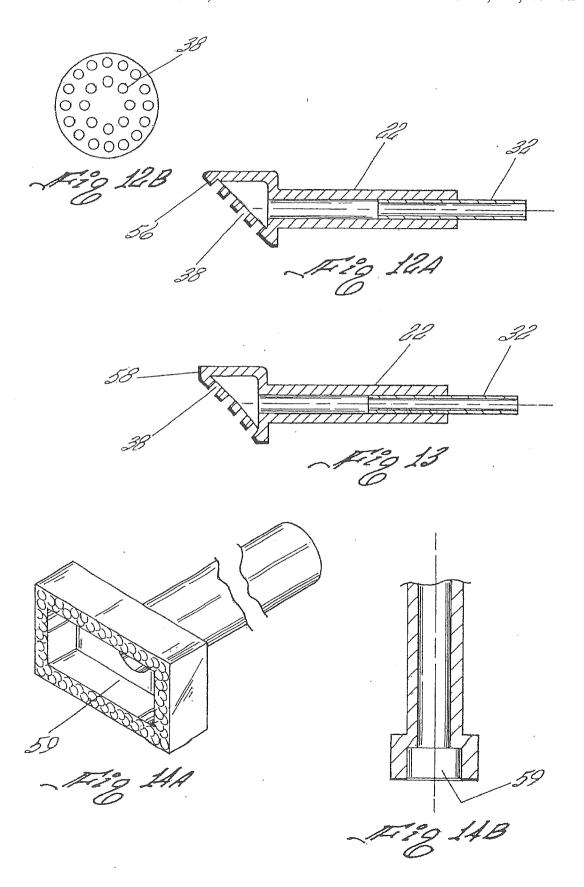


EXHIBIT A, PAGE 9

U.S. Patent

Jun. 5, 2001 Sheet 4 of 4 US 6,241,739 B1



US 6,241,739 B1

1

MICRODERMABRASION DEVICE AND METHOD OF TREATING THE SKIN SURFACE

BACKGROUND OF THE INVENTION

This invention provides a treatment tool and tissue collection system for remove of outer layers of skin to provide a revitalized, fresh skin surface. This objective is to remove dead and old skin cells without damaging the remaining skin surface and without the use of powdered abrasive materials because these materials may result in undesirable side effects.

DESCRIPTION OF THE PRIOR ART

Dermabrasion, also referred to as microdermabrasion, is a process for removal of dead cells from the outermost layer of the skin, referred to as the epidermis, clean out blocked pores, and enhance skin tone. Additionally, the margins of acne scars and other traumatic scars can be erased and aging 20 spots and sun damaged skin can be polish off. This must be accomplished without injuring the lower two layers, namely, the dermis and the subcutaneous layer or lower dermis. Typically, the skin surface is treated a minimum of 5 times spaced 7 to 10 days apart. This is then followed by periodic 25 maintenance sessions. The benefits are:

- 1. poor, dull skin is enhanced by a gentle resurfacing of the superficial skin layers,
- 2. expression lines typically seen on the forehead and around the mouth are softened,
- 3. fine, crepey lines on the cheeks, generally caused by aging and sun damage are reduced,
- 4. pigment changes and skin discoloration are reduced,
- 5. enlarged pores are reduced and clogged pores typical in 35 acne conditions are exfoliated and cleaned out, and
- 6. margins of superficial acne marks, stretch marks, burn scars and surgical scars can be smoothed.

Use of abrasion techniques can be traced back to the blemishes and rough spots and to make the skin smooth and soft. More recently, abrasive tipped devices or rotating brushes and cylinders coated with abrasive particles, such as diamond dust, have been used to remove skin layers (U.S. Pat. Nos. 2,712,823; 2,867,214; 2,881,763; 2,921,585). U.S. 45 Pat. No. 5,800,446 describes a stick, glove finger tip or glove palm coated with an abrasive material which is rubbed over the skin surface to provide a polishing action. U.S. Pat. No. 3,964,212 directed to a pneumatic grinding machine for flat surfaces, incorporates a rotating grinding tool enclosed in a 50 features of the invention. housing with air flowing over the surface to collect dust created by the grinding operation. U.S. Pat. No. 4,378,804 is directed to a skin abrasion device which uses flowing water to rotate an abrasive brush and create a vacuum to remove loosened skin particles. The rotating brush is usually used in 55 conjunction with a liquid detergent or medicinal compound applied to the skin surface being scrubbed. Chemicals, ultrasonic oscillating tips (U.S. Pat. No. 5,012,797) and lasers have also been used for a more aggressive abrasion. U.S. Pat. No. 5,037,431 describes the use of a pressurized jet 60 of a liquid, such as water or sterile saline, to fragment and remove diseased tissue without harming surrounding healthy tissue. This device operates in conjunction with vacuum aspiration to remove the liquid and fragmented tissue.

The present trend is to abrade the skin surface using powdered aluminum oxide or a liquid topical composition

containing suspended aluminum oxide (U.S. Pat. No. 4,957, 747). U.S. Pat. No. 5,037,432 provides for the pressurized delivery, using compressed air, of a powdered, abrasive substance and the removal of the abrasive substance and loosened skin tissue using a vacuum. The abrasive substance is typically microcrystals of quartz, metal, or aluminum oxide. The powdered abrasive is blown through a wand which has a hole in the skin contact end to provide access of the abrasive to the skin surface being treated. An alternative is to cause the aluminum oxide powders to flow by applying a vacuum to the exhaust side of a container holding the abrasive powder and entraining the powder in a flowing gas stream. The powder is then drawn by the vacuum through a treatment tool, across the skin surface to abrade or rub off the epidermis and then recovered along with the skin particles in a collection chamber (U.S. Pat. Nos. 5,100,412; 5,207,234; 5,810,842). This process is similar to "bead-blasting". A potential disadvantage of all of these techniques is that particles can be lodged in the skin and a substantial amount of aluminum oxide and cells, which have to be properly disposed of, may be left behind on or in the skin.

While no toxic effects have been shown from aluminum oxide left on or in the skin, this material has been shown to cause inflammatory changes to the lungs in workers who have inhaled aluminum oxide. (Schwarz, Y, et al., "Evaluation of Workers Exposed to Dust Containing Hard Metals and Aluminum Oxide" Am J of Ind Med, 34(20;177-82) August 1999). Also, the eyes must be protected from the highly abrasive dust, which can injure the cornea. Therefore, it is recommended that workers using these devices wear breathing masks and glasses to provide protection from ophthalmic and respiratory damage. Similar protection is suggested for patients being treated. It is also possible that particles of the abrasive material can be left imbedded in the skin surface resulting in long term irritation and provide a situs for bacterial infections.

SUMMARY OF THE INVENTION

The device for microdermabrasion comprises a hollow ancient Egyptians who used alabaster and pumice to remove 40 tube with and abrasive material permanent attached to a skin contacting end. The abrasive coated tip is moved over the skin surface while a vacuum is applied through the tube to the skin surface to remove cells abraded from the skin surface. The vacuum also causes the skin to be held in intimate contact with the abrasive tip during the treatment procedure.

DESCRIPTION OF THE FIGURES

- FIG. 1 is a schematic drawing of a device incorporating
- FIG. 2 is a partial cutaway view of a treatment tube and filter assembly used in the device of FIG. 1.
- FIG. 3 is a schematic drawing of the vacuum flow path of the device of FIG. 1.
- FIG. 4 is a cutaway side view of the end of the treatment
- FIG. 5 is an enlarged view of the circled portion of FIG.
- FIGS. 6A and 7A, are cutaway side views of two different treatment tubes usable with the device of FIG. 1.
- FIGS. 6B and 7B are end views of the two different treatment tubes of FIGS. 6A and 7A.
- FIG. 8 is a cutaway side view of the end of a sloped 65 treatment tube.
 - FIG. 9 is a cutaway side view of the end of a tapered treatment tube.

US 6,241,739 B1

3

FIG. 10 is a cutaway side view of a valved treatment tube.

FIG. 11 is a cutaway side view of the end of a treatment tube with a second tube for delivery of a supplemental treatment fluid.

treatment tube with an enlarged, sloped end.

FIG. 12B is an end view of the treatment tube of FIG. 12A.

FIG. 13 is a side cutaway side view of the end of a 10 treatment tube with an enlarged, sloped concave end.

FIG. 14A is a view of a rectangular shaped treatment surface with the handle being the conduit for the vacuum.

FIG. 14B is a cutaway side view of the end of a treatment tube with an enlarged, rectangular shaped end.

DETAILED DESCRIPTION OF THE INVENTION

The invention provides the capability to perform microdermabrasion without the potential health risks or hazards of using a flowing, powdered metallic substance such as aluminum oxide. This is generally accomplished by the use of a tube having a treatment tip with an abrasive material permanently attached thereto. The term "tube" or "tubular" used herein refers to an elongated hollow structure of any cross section, which includes, but is not limited to, a round, oval, square or rectangle cross section. The abrasive coated end piece, which may also have various different shaped cross sections, may be secured to the treatment tip or be removable and interchangeable. The abrasive tip is rubbed over the skin surface being treated. The tube and related instrumentation also provides a vacuum collection and an optional filter system for collection of the skin cells removed by the procedure, the skin cells being aspirated through a hole or holes in the central portion of the abrasive tip. The vacuum also aids in making an intimate contact between the skin and the abrasive coated tip.

FIG. 1 shows the overall system which comprises a housing 10 which encloses a vacuum pump 24, an ON/OFF switch 12, a gauge 14 to measure the level of vacuum and a valve 16 to adjust the vacuum. While not necessary for operation of the invention, shown mounted on the external surface of the housing 10 is a filter assembly 18. Attached to the filter assembly 18 is a hollow tube or wand assembly 20 upon which the treatment tip 22 is mounted. The other end of the filter assembly 18 is connected to the vacuum pump 24 located inside the housing 10.

FIG. 2 shows the wand assembly 20 comprising tubing 26 connecting the tip 22 and filter assemble 18. Within the filter 50 assembly 18 is a filter pad 28 which collects the loosened skin tissue and prevents the skin tissue or collected body fluids and oils from entering the vacuum pump. The various different tips 22 are discussed in detail herein below. The tubing 26 is flexible so that it is easy to manipulate the tip 55 and to allow ready connection of the wand assembly 20 to an upper hollow extension 30 on the external surface of the filter assembly 18 and a connector tube 32 on the tip. Since the system uses vacuum, the connections are self-sealing.

A lower hollow extension 34 extending from the filter 60 assembly 18 fits into a matching hole on the main housing 10. The filter assembly 18 is easily removable so that it can be replaced after each patient and disposed of. The filtration pad 28 inside the filter housing 18 catches the debris but allows air to easily flow through the pad. The lower hollow 65 extension 34 allows air pulled through the filter assembly 18 to be drawn into the vacuum pump 24.

FIG. 3 shows the flow of the air stream through the vacuum system. It comprising a vacuum pump 24, filter assembly 18, tubing 26 which connects the filter to the treatment tip 22 and vacuum line 36 connecting the filter FIG. 12A is a side cutaway side view of the end of a assembly 18 to the vacuum pump 24. The vacuum pump 24 is operated at a fixed speed to produce a fixed vacuum level. To control the level of vacuum applied through the treatment tip 22 to the skin, a valve 16 vents air into the system, thus reducing the amount of vacuum. Gauge 14 allows the level of vacuum to be monitored. Of course, the vacuum pump can be operated at different speeds to change the level of vacuum applied.

> Referring to FIG. 2, a vacuum is applied through the tube 26 to a hole 38 in the treatment tip 22. The tip 22 is brought into contact with skin, the vacuum causing the skin to be pressed against a roughened surface on the end 40 of the treatment tip. As the tube is manually moved across skin the roughened surface abrades the epidermis dislodging cells from the surface. The vacuum causes the dislodged cells to flow into the wand assembly 26. The level of abrasion depends on the level of vacuum applied to the treatment tip and the size of the abrasive particles attached to the treat-

FIG. 4 is a side view of the working end of the treatment 25 tube 22. The end of the treatment tube 22 has diamond grit 42 preferably adhered to the end of a metal tube by a plating process using nickel 44 as a binder. The nickel 44 is applied in a controlled manner so that sufficient nickel is present to hold each piece of diamond in place, but yet allow a faceted portion of the diamond to be exposed, the sharp edges of the diamond providing the cutting edges. A diamond particle size of around 0.0035 inches (63-75 microns) produces a smooth and uniform removal of skin surface. However, diamond particles from about 50 to about 150 microns can be used to produce different levels of abrasion, the larger particles removing more skin cells and performing the cell removal more rapidly. However, if the particles are to large the dermis can be damaged and injury to the second and third layers of skin can occur. Very fine particles remove few skin cells and act more in a polishing manner. Other abrasive materials, such as aluminum oxide, can be bonded to the treating tool tip or the tip itself can have a roughened surface cut into the end thereof. Use of an adhered aluminum oxide of about 100 grit (151μ) provides a coarse (aggressive) treatment, and use of about a 120 grit (127 μ) material provides a medium level of treatment. Particles with a higher grit (i.e. small size particles) would create more of a polishing effect. Of course, many different hard abrasive materials known to those skilled in the art, such as silicon carbide, silicon oxide, and various metal nitrates can be used in place of the diamond or aluminum oxide.

The dimensions and materials used to construct the wand assembly 20 is not critical. However, a preferred treatment tip 22 is formed from a 12 mm OD stainless steel tube with a 6 mm ID and a diamond coated end. The stainless steel/diamond tool can be steam or chemical sterilized between uses without damage. A first alternative would be to have a single use or single patient tube which is made of plastic, the end being coated with aluminum oxide, or similar abrasive materials. The abrasive can also be adhered with an adhesive. A further alternative would be a tube, which could be stainless steel, plastic or other stiff tubular material, with a suitable removable and replaceable tip or a tip with an abrasive end surface formed by a machining process.

FIG. 6a shows a removable disc 46 sized to fit over the end 40 of the tube 22. The disc 46 has an abrasive end or

abrasive material attached to its outer end. During the procedure various disc with different abrasive characteristics can be interchanged and at the conclusion of the procedure the disc(s) 46 can be discarded.

The end of the tube can also be made abrasive by 5 machining the surface as shown in FIGS. 7a and 7b in a manner commonly called knurling. Diamond shaped projections 48 are raised on the surface for abrading in any direction. This would be similar to the construction of wood and metal files. The tip as shown in FIG. 7b can also be 10 provided which raised portions tapered and oriented in only one direction, similar to a saw teeth, except the tooth would only be a few thousands of an inch high, to achieve smooth abrading of the surface.

Besides providing different means of abrasion on the end 15 of the treatment tip 22, the contour or shape of the tip can be varied. FIGS. 6a and 7a show a flat end. The flat end can provide a greater surface area in contact with the skin for an aggressive removal of surface cells. A concave surface as shown in FIG. 4, in conjunction with the vacuum applied to the skin surface results in a more uniform cutting surface on the skin. For easier access to difficult to reach locations the roughened ends can be sloped, as shown in FIG. 8, or tapered, rounded or cone shaped, as shown in FIG. 9, to better treat curved surfaces, such as the area between the cheek and the nose.

The device uses a vacuum pump 24 which generates a constant level of vacuum, which is controlled (lessened) by the venting of air into the system by the valve 16 mounted in the housing 10. As an alternative, the full vacuum can be applied to the wand assembly 20. The level of vacuum can then be decreased by air vented into the system through vent hole 50 by adjusting flow control valve 52 mounted on the wand 20 or treatment tube 22, as shown in FIG. 10. The 35 valve 52 can be configured to be a simple on/off control or variable so that suction can be readily adjusted by the operator while performing the procedure.

While the treatment tube can be used alone to abrade the skin and the vacuum system can be configured to primarily 40 pick up the loosened skin cells, it has been found that applying the vacuum through the hole 38 in the end of the treatment tip 40 provides an unexpected advantage. The skin being treated is pulled against the abrasive tip, thus increasing the effectiveness of the tissue abrasion and removal 45 process. Sealing off ambient air raises the level of vacuum and makes the abrasion more aggressive. The concave tip as shown in FIG. 4 is particularly effective when used in conjunction with a vacuum, as it provides a larger surface area for the skin/abrasive material contact.

As a further variation, the treatment tip 22 can have an enlarged abrasive coated end 56, 58 which is flat and slopped or sloped and concave such as shown in FIGS. 12A and 13 respectively. While a single hole 38 in the center of the end 56 may be used for applying the vacuum, the efficacy of the 55 abrasive tip can be improved by using several holes 38 therein FIG. 12B is an end view showing an example of a flat, sloped abrasive tip with multiple openings for application of the vacuum to the skin surface. An end view of the concave tip of FIG. 13 would have a similar appearance. 60 means thereon for monitoring and controlling the level of Further, while FIGS. 12A and 13 show the end to be part of the treatment tip 22 it could be a separate removable piece as shown in FIGS. 6a and 6b. These configurations have particular utility in treating large flat body surfaces such as the chest, back and legs of an individual. They can also be 65 used where a large abrasive treatment surface is desired but it is preferential to spread out the applied vacuum so that it

6

does not aggressively suck skin into the tip or suck the skin into the tip at a single point.

FIG. 11 shows a second tube 54 mounted on the treatment tip 22. The tube could be used to allow the metered use of chemicals to enhance the abrasion or supply or other liquids to reduce friction.

To use devices embodying the invention the vacuum is applied, through the treatment tool, to the area of the skin to be treated while the abrasive surface, which surrounds the applied vacuum, is moved over the skin surface to be treated. The abrasive tip is typically moved over the skin surface in a circular motion. However, a combination of vertical and horizontal movements of the tip, with or without the circular movements, may also be used to assure that the skin area is uniformly treated. Also, if a particular skin blemish or abnormality is to be treated. The tip motion can be restricted to that particular portion of the skin.

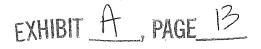
FIGS. 14A and 14B show an elongated treatment end witha large central opening 59 for application of the vacuum to the skin. In this case the device has wide treatment, shaped like a razor, and elongated abrasive areas for debrading flat areas of skin.

While the invention has been shown and described with reference to different embodiments thereof, it will be appreciated by those skilled in the art that variations in form. detail, compositions and operation may be made without departing from the spirit and scope of the invention as defined by the accompanying claims.

For example, the vacuum does not have to be provided by a vacuum pump with controller housing but can be provided by a centrally located vacuum system such as may be available in a hospital or medical facility. However, to prevent contamination of the vacuum system the filter assembly should be provided to collect the tissue removed. The abrasive tip has been described as formed by adhering or attaching an abrasive material t thereto or machining the surface of the tip to create a roughened surface. However, one skilled in the art will recognize that there are numerous chemical and mechanical processes to create a roughened surface on the end of the treatment tip sufficient for performing the process described herein.

I claim:

- 1. A device for removing portions of the outer layers of skin comprising:
 - a source of a vacuum, and
 - a tube with an abrasive treatment tip thereon for dislodging cells from a surface being treated, the tube being attached to the source of vacuum so that a lumen through the tube has a reduced pressure therein which is less than the ambient pressure surrounding the tube, the abrasive treatment tip having at least one opening therein for applying the reduced pressure within the tube to a skin surface, said vacuum causing the skin being treated to have an increased area of contact with the abrasive tip, the vacuum also functioning to collect tissue or cells removed from the skin surface being treated.
- 2. The device of claim 1 wherein the source of vacuum is a vacuum pump enclosed within a housing, the housing have vacuum delivered.
- 3. The device of claim 1 further including means for varying the level of reduced pressure applied through the treatment tip.
- 4. The device of claim 3 wherein the means for varying the level of reduced pressure applied through the treatment tip is a valve mechanism mounted in the treatment tube.



US 6,241,739 B1

7

- 5. The device of claim 3 wherein the means for varying the level of reduced pressure applied through the treatment tip is a valve mechanism in operative connection to the source of vacuum.
- 6. The device of claim 1 wherein the abrasive tip has 5 particles of diamond, aluminum oxide, silicon carbide, silicon oxide or metal nitrides attached thereto.
- 7. The device of claim 1 wherein the abrasive tip has a mechanically or chemically created roughened surface.
- 8. The device of claim 1 further including a collection 10 filter disposed between the treatment tip and the source of vacuum so that all particulate matter entering the at least one opening in the abrasive treatment tip is collected therein.
- 9. A tubular device for performing micro-abrasion of a skin surface comprising a tubular device with a lumen there 15 through, the tubular device having a first end with an abrasive surface and means on a second end thereof forattachment to a source of a vacuum to apply a negative pressure to a skin surface to be treated, said vacuum causing increased contact between the skin surface and the abrasive 20 surface.
- 10. The tubular device of claim 9 wherein the abrasive surface on the first end comprises crystalline diamond pieces permanently secured to said first end.
- 11. The tubular device of claim 9 wherein the abrasive 25 contacting surface is formed by a machining process. surface on the first end comprises crystalline aluminum oxide permanently secured to said first end.

12. A method of treating the skin surface of a patient to remove surface cells and reduce undesirable skin blemishes comprising

8

- providing a tubular treatment tool with an abrasive skin contacting surface,
- providing a pressure through a lumen within the tubular treatment tool which is less than ambient pressure surrounding the treatment tube, and
- bringing the abrasive skin contacting surface into contact with the skin surface to be treated while said lesser pressure is delivered to the skin surface through the
- moving the abrasive skin contacting surface across the skin surface.
- 13. The method of claim 12 wherein the abrasive skin contacting surface has an abrasive crystalline material adhered thereto.
- 14. The method of claim 13 wherein the abrasive crystalline material is selected from the group consisting of crystals of diamond, aluminum oxide, silicon carbide, silicon oxide and metal nitrides.
- 15. The method of claim 12 wherein the abrasive skin

FXHIBIT A PAGE



(12) EX PARTE REEXAMINATION CERTIFICATE (6045th)

United States Patent

Waldron

(10) Number:

US 6,241,739 C1

(45) Certificate Issued:

Dec. 11, 2007

(54)	MICRODERMABRASION DEVICE AND
` ,	METHOD OF TREATING THE SKIN
	SURFACE

(75) Inventor: Stephen H. Waldron, Camarillo, CA (US)

(73) Assignee: Altair Instruments Inc., Camarillo, CA

Reexamination Request:

No. 90/007,683, Aug. 22, 2005

Reexamination Certificate for:

Pate	nt No.:	6,241,739	
Issue	ed:	Jun. 5, 200	1
App.	l. No.:	09/440,020	
Filed	l:	Nov. 12, 19	99
Int.	Cl.		
A6II	B 17/54	(2006.0)	1)

(51) Int. Cl.

A61B 17/54 (2006.01)

A61B 17/32 (2006.01)

A61B 17/00 (2006.01)

A61H 9/00 (2006.01)

(52)	U.S.	Cl.	 ,,,,,,	 	 	606/13	1
		_	 	 ~		101110	

See application file for complete search history.

(56) References Ched'. ...

U.S. PATENT DOCUMENTS

2,881,763 A * 4/1959, Robbins 606/131

3,214,869	A		11/1965	Stryker
4,957,747	A	幹	9/1990	Stiefel 424/691
5,037,432	A	*	8/1991	Molinari 606/131
5,122,153	A		6/1992	Harrel '
5,207,234	A	*	5/1993	Rosso 128/898
5,810,842	A	*	9/1998	Di Fiore et al 606/131
5,882,201	A		3/1999	Salem
5,971,999	A	Νįε	10/1999	Naldoni 606/131
6,423,078	В1	*	7/2002	Bays et al 606/131
6.641.591	BI		11/2003	Shadduck

OTHER PUBLICATIONS

U.S. Appl. No. 60/150,782, filed Aug. 26, 1999, Inventor John H. Shadduck.

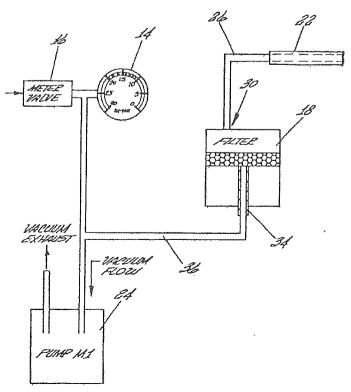
* cited by examiner

Primary Examiner—Sara S Clarke

(57)

This invention provides a treatment tool and tissue collection system, for remove of outer layers of skin to provide a revitalized, fresh skin surface, and a method of using same, comprising an abrasive tipped tool mounted on the end of a tube, said tube being connected to a source of vacuum. The vacuum aids in maintaining intimate contact between the abrasive tip and the skin during the treatment process and transports the removed tissue to a collection container.

ABSTRACT



US 6,241,739 C1

20

EX PARTE REEXAMINATION CERTIFICATE ISSUED UNDER 35 U.S.C. 307

THE PATENT IS HEREBY AMENDED AS INDICATED BELOW.

Matter enclosed in heavy brackets [] appeared in the patent, but has been deleted and is no longer a part of the 10 patent; matter printed in italics indicates additions made to the patent.

AS A RESULT OF REEXAMINATION, IT HAS BEEN DETERMINED THAT:

Claims 7 and 15 are cancelled.

Claims 1, 2, 6 and 9-13 are determined to be patentable as amended.

Claims 3-5, 8 and 14, dependent on an amended claim, are determined to be patentable.

New claims 16-18 are added and determined to be $_{25}$ patentable.

- 1. A device for removing portions of the outer layers of skin comprising:
 - a source of a vacuum, and
 - a tube with [an abrasive] a treatment tip thereon for dislodging cells from a surface being treated, the treatment tip having an abrasive material permanently attached to an operating end thereof to provide a face having an orientation fixed in regard to an axis extending longitudinally through the tube, the tube being attached to the source of vacuum so that a lumen through the tube has a reduced pressure therein which is less than the ambient pressure surrounding the tube, 40 the [abrasive] treatment [tip] delivery surface having [at least one opening] one or more openings therein for continuously applying the reduced pressure within the tube through substantially all said one or more openings to a skin surface, said continuously applied 45 vacuum causing the skin being treated to have an increased area of contact with the abrasive material permanently attached to the treatment tip, the vacuum also functioning to collect tissue or cells removed from the skin surface being treated.
- 2. The device of claim 1 wherein the source of vacuum is a vacuum pump enclosed within a housing, the housing [have] having means thereon for monitoring and controlling the level of vacuum delivered.
- 6. The device of claim 1 wherein the abrasive material 55 permanently attached to the treatment tip [has] comprises particles of diamond, aluminum oxide, silicon carbide, silicon oxide or metal nitrides [attached thereto].
- 9. A tubular device for performing micro-abrasion of a skin surface comprising a [tubular device] tube with a lumen there through, the [tubular device] tube having a first end 60 with an abrasive surface provided by an abrasive material permanently attached thereto, the first end having one or more openings in the abrasive surface, said abrasive surface being at a fixed orientation to an axis through the lumen, and means on a second end [thereof] of the tube for attachment 65 carbide, silicon oxide and metal nitrides. to a source of a vacuum [to apply] which continuously provides a negative pressure through said one or more

openings in the abrasive surface substantially simultaneously to a skin surface to be treated, said vacuum causing increased contact between the skin surface and the abrasive material attached to said surface of the first end.

10. The tubular device of claim 9 wherein the abrasive material permanently attached to the surface on the first end comprises crystalline diamond pieces [permanently secured

to said first end].

11. The tubular device of claim 9 wherein the abrasive material permanently attached to the surface on the first end comprises crystalline aluminum oxide [permanently secured to said first end].

12. A method of treating the skin surface of a patient to remove surface cells and reduce undesirable skin blemishes comprising

providing a tubular treatment tool with [an abrasive] a skin contacting surface having an abrasive material permanently attached to the end thereof, the skin contacting surface being non-rotational during use,

providing [a pressure] through a lumen within the tubular treatment tool and one or more holes in the end of said tool a pressure which is less than ambient pressure surrounding the treatment tube, and

bringing the [abrasive] end of the skin contacting surface having an abrasive material permanently attached thereto into contact with the skin surface to be treated while said lesser pressure is delivered to the skin surface through [the lumen] the one or more holes in contact with the skin surface in the end of said tool, and moving the abrasive material on the skin contacting surface across the skin surface.

13. The method of claim 12 wherein the [abrasive] skin contacting surface has an abrasive crystalline material adhered thereto.

16. A microdermabrasion wand assembly for controlled treatment delivery surface, the treatment delivery sur- 35 removal by abrasion of outer layers of skin without the use of a separately applied abrasive material comprising:

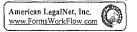
- a hollow tubular wand having an abrasive material permanently attached to an operative end of said tubular wand, a lumen extending through the length of the tubular wand providing a flow channel from one or more openings in the operative end of the tubular wand to a vacuum attachment end of the tubular wand, the one or more openings in the operative end of the wand being oriented for continuous contact with the skin surface to increase the area of skin contact with the operative end during use thereof in abrasively removing the layer of skin,
- a source of a vacuum operatively attached to the vacuum attachment end of the tubular wand by a conduit connecting there between such that the vacuum provided by the vacuum source is applied through the lumen to the one or more openings in the operative end,
- a valve interposed between the source of vacuum and the operative end, said valve operating to vary the level of vacuum applied through the one or more openings in the operative end, and
- a filter interposed in the conduit between the source of vacuum and the operative end.
- 17. The microdermabrasion wand assembly of claim 16 wherein the abrasive material permanently attached is a crystalline material.
- 18. The microdermabrasion wand assembly of claim 17 wherein the crystalline material is selected from the group consisting of crystals of diamond, aluminum oxide, silicon

UNITED STATES DISTRICT COURT CENTRAL DISTRICT OF CALIFORNIA

NOTICE OF ASSIGNMENT TO UNITED STATES JUDGES

	This case has been as	ssigned to Di	strict Judge _	Audrey	B. Col	lins	_ and the assigned	
Magistı	rate Judge is	Andrew J.	Wistrich	•				
	The case nu	ımber on all	documents file	d with the Court	shoule	d read as follo	ows:	
			CV13-07448	ABC (AJWx)				
Califor	Pursuant to General nia, the Magistrate Ju						District of	
	All discovery related	l motions sho	ould be noticed	on the calendar o	of the	Magistrate Ju	dge.	
				Clerk, U.	. S. Dis	strict Court		
	October 8, 2013			By D. La		-		
	Date			Depu	ıty Cle	rk		
CONTRACTOR AND			NOTICE TO	O COUNSEL				
A copy	of this notice must be	e served with	the summons a	nd complaint on i	all def	endants (if a r	removal action is	
filed, a	copy of this notice m	ust be served	on all plaintiffs).				
Subseq	uent documents mu	ist be filed at	the following	location:				
	Western Division 312 N. Spring Street, G Los Angeles, CA 9001		Southern Divisi 411 West Fourt Santa Ana, CA	h St., Ste 1053		Eastern Divisi 3470 Twelfth : Riverside, CA	Street, Room 134	
Failure	Failure to file at the proper location will result in your documents being returned to you.							

n.com
DISTRICT COURT CT OF CALIFORNIA
CASE NUMBER
,
SUMMONS
ns on you (not counting the day you received it), you cached omplaint omega amended complaint amended complaint 12 of the Federal Rules of Civil Procedure. The answonald P. Oines, Esq., Thomas C. Richardson, Esq., Rutal, Fourteenth Floor, Costa Mesa, CA 92626. If you fail for the relief demanded in the complaint. You also mutated the complaint of the relief demanded in the complaint.
W 10 015710 24
Clerk, U.S. District Court
nonucleones # (### 1 K
By:
Deputy Clerk
(Seal of the Court)
t



Case 2:13-cv-07448-GW-SH Document 1 Filed 10/08/13 Page 19 of 21 Page ID #:23 UNITED ST ES DISTRICT COURT, CENTRAL DISTRICT C ALIFORNIA CIVIL COVER SHEET

Planted and the state of the st				V-24V	
I. (a) PLAINTIFFS (Ch ALTAIR INSTRUMEN	NTS, INC., a Califo	rnia corporation,	RODAN & FIEL AMAZON.COM through 10,	DS, LLC, a California I, INC., a Delaware co	
(b) Attorneys (Firm Name are representing yourself Ronald P. Oines SBN Thomas C. Richardso RUTAN & TUCKER, 611 Anton Boulevard	, provide same informa I 145016, roines@ on SBN 244461, tri LLP , Fourteenth Floor	ation.) rutan.com	are representing y	n Name, Address and Tele ourself, provide same info	
Costa Mesa, CA 926	Tele	phone: (714) 641-5	100		
II. BASIS OF JURISDIC	_		(Place an X in one bo	INCIPAL PARTIES-For D x for plaintiff and one for o TF DEF	lefendant)
1. U.S. Government Plaintiff	🔀 3. Federal Qu Government	Not a Party)	Citizen of This State Citizen of Another State	1 1 of Business in t	Principal Place
2. U.S. Government Defendant	4. Diversity (I of Parties in		Citizen or Subject of a	of Business in 3 3 Soreign Nation	Another State
_	, included the second s	3. Remanded from Appellate Court		ansferred from Another	. Multi- District itigation
V. REQUESTED IN COI		_ = =		nly if demanded in com	,
CLASS ACTION under	F.R.Cv.P. 23: 🔲 \	∕es ⊠ No		NDED IN COMPLAINT:	\$ According to proof.
This is an action fo	or patent infringeme	ent arising under the	ng and write a brief statemer e Patent Laws of the l	nt of cause. Do not cite jurisdi Jnited States, Title 35,	ctional statutes unless diversity.) United States Code.
VII. NATURE OF SUIT (CONTRACT	REAL PROPERTY:CONT	IMMIGRATION	PRISONER PETITIONS	PROPERTY RIGHTS
	110 Insurance	240 Torts to Land	462 Naturalization	Habeas Corpus:	Strategy of the strategy of the separate services of the service of the services of the servic
375 False Claims Act 400 State	120 Marine	245 Tort Product	Application	463 Alien Detainee	820 Copyrights
Reapportionment	130 Miller Act	Liability 290 All Other Real	465 Other Immigration Actions	510 Motions to Vacate Sentence	830 Patent
410 Antitrust 430 Banks and Banking	140 Negotiable	Property	TORTS	530 General	SOCIAL SECURITY
450 Commerce/ICC	Instrument 150 Recovery of	TORTS PERSONAL PROPERTY	PERSONAL PROPERTY	535 Death Penalty	861 HIA (1395ff)
Rates/Etc.	Overpayment &	310 Airplane	370 Other Fraud	Other:	862 Black Lung (923)
460 Deportation	Enforcement of Judgment	315 Airplane Product Liability	371 Truth in Lending	540 Mandamus/Other	863 DIWC/DIWW (405 (g))
470 Racketeer Influenced & Corrupt Org.	151 Medicare Act	320 Assault, Libel &	380 Other Personal Property Damage	555 Prison Condition	864 SSID Title XVI 865 RSI (405 (g))
480 Consumer Credit 490 Cable/Sat TV	152 Recovery of Defaulted Student Loan (Excl. Vet.)	Slander 330 Fed. Employers' Liability	385 Property Damage Product Llability BANKRUPICY	560 Civil Detainee Conditions of Confinement	FEDERAL TAX SUITS
850 Securities/Commodities/Exchange	153 Recovery of Overpayment of	340 Marine 345 Marine Product	422 Appeal 28 USC 158	FORFEITURE/PENALTY	870 Taxes (U.S. Plaintiff or Defendant) 871 IRS-Third Party 26 USC
890 Other Statutory	Vet. Benefits	Liability 350 Motor Vehicle	423 Withdrawal 28 USC 157	Seizure of Property 21 USC 881	7609
891 Agricultural Acts	160 Stockholders' Suits	355 Motor Vehicle	CIVIL RIGHTS	690 Other	
893 Environmental Matters	190 Other Contract	Product Liability 360 Other Personal Injury	440 Other Civil Rights	LABOR 710 Fair Labor Standards	
895 Freedom of Info.		362 Personal Injury-	441 Voting	Act	
☐ Act	195 Contract		442 Employment	TT 720 Labor/Mami	
Act 896 Arbitration	Product Liability 196 Franchise	Med Malpratice 365 Personal Injury- Product Liability	442 Employment 443 Housing/ Accomodations	720 Labor/Mgmt. Relations	
	Product Liability	Med Malpratice 365 Personal Injury-	443 Housing/ Accomodations 445 American with Disabilities- Employment 446 American with	Relations 740 Railway Labor Act 751 Family and Medical Leave Act 790 Other Labor	·
896 Arbitration 899 Admin. Procedures Act/Review of Appeal of	Product Liability 196 Franchise REAL PROPERTY 210 Land Condemnation 220 Foreclosure 230 Rent Lease & Ejectment	Med Malpratice 365 Personal Injury- Product Liability 367 Health Care/ Pharmaceutical Personal Injury	443 Housing/ Accomodations 445 American with Disabilities- Employment 446 American with Disabilities-Other 448 Education	Relations 740 Railway Labor Act 751 Family and Medical Leave Act	

CIVIL COVER SHEET

Page 1 of 3

CV-71 (09/13)

Case 2:13-cv-07448-GW-SH Document 1 Filed 10/08/13 Page 20 of 21 Page ID #:24 UNITED STATE DISTRICT COURT, CENTRAL DISTRIC DISTRIC DISTRIC DISTRIC

CIVIL COVER SHEET

VIM. VENUE: Your answers to the questions below will determine the division of the Court to which this case will most likely be initially assigned. This initial assignment is subject to change, in accordance with the Court's General Orders, upon review by the Court of your Complaint or Notice of Removal.

Question A: Was this case removed from		STATE CASE WAS F	ENDING IN	THE CC	DUNTY OF:	INI	TIAL DIVISION IN CA	ACD IS:		
state court? Yes No	Los Angeles						Western			
If "no," go to Question B. If "yes," check the		Ventura, Santa Barbara, or San Luis Obispo					Western			
box to the right that applies, enter the corresponding division in response to		Prange	Luis Obist				Southern			
Question D, below, and skip to Section IX.							Eastern			
		iverside or San Bernardino			.	- Pour	Lastem	A		
Question B: Is the United States, or one of its agencies or employees, a party to this action?		If the United States, or or	ne of its ag	encies o	r employees, is a party, is	it:				
Yes No		A PLAINTIFF?			A DEFENDANT?		INITI DIVISIO CACD	NI NC		
	Th w	en check the box below for the c nich the majority of DEFENDANT	ounty in S reside.		n check the box below for the ch the majority of PLAINTIFF					
If "no," go to Question C. If "yes," check the box to the right that applies, enter the		os Angeles			s Angeles		West	ern		
corresponding division in response to		entura, Santa Barbara, or San bispo	Luis		ntura, Santa Barbara, or Sa rispo	an Luis	Western			
Question D, below, and skip to Section IX.		range		Ora	ange		South	em		
	R	iverside or San Bernardino		Riv	verside or San Bemardino		Eastern			
		ther		Other			Western			
Indicate the location in which a majority of plaintiffs reside: Indicate the location in which a majority of defendants reside: Indicate the location in which a majority of claims arose:							ct of California			
								[3] - [6] [3] (4:4:3] - [4:4:4		
C.I. Is either of the following true? If so, o	песк и	e one that applies:	C.2. IS	7	f the following true? If so nore answers in Column D		one that applies:			
only 1 answer in Column C and no	answer	s in Column D		only 1	answer in Column D and	no answers	in Column C			
Your case will initially be SOUTHERN DIV Enter "Southern" in response t	/ISION.		Your case will initially be assigned to the EASTERN DIVISION. Enter "Eastern" in response to Question D, below.							
If none applies, answer ques	stion C2	to the right.			If none applies, go	to the box b	elow.			
		Your case will in WEST Enter "Western" in re	FERN DIVIS	ION.						
The Land of the La		ochogospos, sajak, o kilm in tokom Ukospolik kil	en regulis pentrula da P			2 4 2 3337				
Question D: Initial Division?			Topic Principle (#150%)		INITIAL DIVI	SION IN CAC	D fry			
Enter the initial division determined by Quest	ion A, B	, or C above:	WESTERN							

American LegalNet, Inc.
www.FormsWorkFlow.com

Page 2 of 3

Case 2:13-cv-07448-GW-SH Document 1 Filed 10/08/13 Page 21 of 21 Page ID #:25 UNITED STATE ISTRICT COURT, CENTRAL DISTRIC IF CALIFORNIA

CIVIL COVER SHEET

IX(a). IDENTICAL CAS	ES: Has this ac	tion been previously filed in this court and dismissed, remanded or closed?	\boxtimes	NO		YES
If yes, list case numb	per(s):					
IX(b). RELATED CASE	S : Have any cas	es been previously filed in this court that are related to the present case?	\boxtimes	NO		YES
If yes, list case numb	per(s):		~			
Civil cases are deemed	related if a previo	usly filed case and the present case:				
(Check all boxes that apply	y) A. Arise	from the same or closely related transactions, happenings, or events; or				
	B. Call fo	or determination of the same or substantially related or similar questions of law and fact;	or			
	C. For ot	her reasons would entail substantial duplication of labor if heard by different judges; or				
	D. Involv	e the same patent, trademark or copyright <u>, and</u> one of the factors identified above in a, b	or c al	so is prese	∍nt.	
X. SIGNATURE OF AT		: DATE:	Octo	ber 8, 2	.013	
other papers as required by lout is used by the Clerk of the	aw. This form, appec Court for the pu	Ronald P. Oines) Civil Cover Sheet and the information contained herein neither replace nor supplement to broved by the Judicial Conference of the United States in September 1974, is required purpose of statistics, venue and initiating the civil docket sheet. (For more detailed instructions)	ursuant	to Local R	ule 3-1 is	s not filed
Key to Statistical codes relation	ng to Social Secur	ty Cases:				
Nature of Suit Code	Abbreviation	Substantive Statement of Cause of Action				
861	HIA	All claims for health insurance benefits (Medicare) under Title 18, Part A, of the Social sinclude claims by hospitals, skilled nursing facilities, etc., for certification as providers (42 U.S.C. 1935FF(b))	Security of servi	/ Act, as ar ces under	nended. the progi	Also, ram.
862	BL	All claims for "Black Lung" benefits under Title 4, Part B, of the Federal Coal Mine Health 923)	h and S	Safety Act o	f 1969. ((30 U.S.C.
863	DIWC	All claims filed by insured workers for disability insurance benefits under Title 2 of the all claims filed for child's insurance benefits based on disability. (42 U.S.C. 405 (g))	Social S	Security Act	, as ame	ended; plus
863	DIWW	All claims filed for widows or widowers insurance benefits based on disability under Tramended. (42 U.S.C. 405 (g))	tle 2 of	the Social	Security	Act, as
864	SSID	All claims for supplemental security income payments based upon disability filed under amended.	r Title 1	6 of the So	ocial Sec	curity Act, as
865	RSI	All claims for retirement (old age) and survivors benefits under Title 2 of the Social Sec (42 U.S.C. 405 (g))	curity A	ct, as ame	nded.	